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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RATNESH KUMAR SHARMA, THOMAS W. CHRISTIAN, and CHANDRAKANT PATEL

Appeal 2015-002073
Application 12/833,080
Technology Center 3700

Before ANNETTE R. REIMERS, JILL D. HILL, and ERIC C. JESCHKE, *Administrative Patent Judges*.

REIMERS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Ratnesh Kumar Sharma et al. (Appellants) appeal under 35 U.S.C. § 134(a) from the Examiner's decision to reject claims 1–19 and 21–25. Claim 20 has been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

CLAIMED SUBJECT MATTER

The claimed subject matter relates to "cooling systems and methods [of operating cooling systems]." *See* Spec. Title, Fig. 2a. Claims 1, 13, and 24 are independent.

Claim 1 is illustrative of the claimed subject matter and recites:

> 1. A cooling system, comprising:
> a water-cooled air conditioning module for cooling air from a chamber;
> a cooling module for cooling warm water generated by the air conditioning module;
> wherein the chamber is arranged for receiving air to be cooled, and air from the cooling module; and
> a control module configured to:
> determine characteristics of the air to be cooled and the air from the cooling module;
> determine, based on the determined characteristics, a flow rate of the air from the cooling module to be input to the chamber such that the air input to the air conditioning module has a relative humidity level within a predetermined range; and
> control the flow rate of the air from the cooling module to the chamber in accordance with the determined flow rate.

REJECTIONS

I. Claims 1, 3, 4, 10–14, 16, and 21–23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kreft (US 2011/0168793 A1; pub. July 14, 2011) and Scott (US 2,118,949; iss. May 31, 1938).

II. Claims 2, 24, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kreft, Scott, and Matsui (US 2009/0165484 A1; pub. July 2, 2009).

III. Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kreft, Scott, and Curtis (US 7,191,607 B2; iss. Mar. 20, 2007).

IV. Claims 7–9 and 17–19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kreft, Scott, and Ito (US 8,036, 779 B2; iss. Oct. 11, 2011).

V. Claim 15 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Kreft, Scott, and Wruck (US 2006/0150644 A1; pub. July 13, 2006).

ANALYSIS

Obviousness over Kreft and Scott

Claims 1, 3, 4, 10–14, 16, and 21–23

The Examiner finds that Kreft discloses the cooling system of claim 1 substantially as claimed except, *inter alia*, "a cooling module for cooling warm water generated by the air conditioning module." Final Act. 3. The Examiner finds that "Scott teaches of a water cooled air conditioning module (Fig. 1, 12), a cooling module (Fig. 1, 6) for cooling warm water generated by the air conditioning module." *Id.* The Examiner further finds that "the water-cooled air conditioning module [12 of Scott] is capable of receiving air from the cooling module [6] by means of damper 14 and duct 15" and that "Scott teaches wherein the system is capable of creating a mixture (combination of air flowing through 18 and air flowing through duct 25) of at least air to be cooled (air flowing through 18) and air from the cooling module [6]." *Id.* at 3–4.

Initially, we note that the limitation requiring the cooling module "for cooling warm water generated by the air conditioning module," is a *functional* claim limitation, not a statement of intended use. *See* Appeal Br. Claims App., i; *see also* Final Act. 27; Appeal Br. 11.

In this case, Scott discloses that tank 6 includes "a multiplicity of water spray nozzles **7**." Scott, col. 1:24–25, Figure. Scott discloses that "[t]he air blowing through the water sprays [7] will evaporate water and *cool same*. Said *cool water* will be pumped from the bottom of the tank **6** by the pump **3**, through pipe **11**, through the cooling coil **12**, and through the pipe **13** to the water sprays [7]." Scott, col. 1:36–41 (emphasis added), Figure; *see also* Appeal Br. 8, 12; Reply Br. 11. In other words, tank (cooling module) 6 of Scott provides cooled liquid (water) to cooling coil (air conditioning module) 12. *See e.g.*, Appeal Br. Claims App., v (Independent claim 24 requires the cooling module to "cool[] warmed liquid from an air conditioning module" *and* "to provide cooled liquid to the air conditioning module."). We disagree with the Examiner that "Scott teaches" tank (cooling module) 6 "cool[s] *warm* water generated by the air conditioning module [cooling coil 12]." *See* Final Act. 27 (emphasis added); *see also id.* at 3; Appeal Br. 12; Reply Br. 10–11.

Scott further discloses that

> [t]he numeral **14** indicates a damper located in a duct **15**, which damper is *normally closed during the warm weather* when it is desirable to cool the living rooms of the house. The numeral **16** indicates a damper located in the duct **17**, which damper is *normally open during the warm weather* when it is desirable to cool the living rooms of the house. The duct **17** leads up through the side walls of the house taking up heat from said walls, preferably passing over the top wall of the upper rooms of the house into the attic and then out to the atmosphere.

Scott, col. 1:42–53 (emphasis added), Figure; *see also* Appeal Br. 8–10, 12–13; Reply Br. 3–5, 9, 11–12.

Scott also discloses that

> [t]he numeral **21** indicates a boiler for heating purposes in cold weather. When it is desirable to heat the rooms in the house, the *shutters **18** are closed and damper **16** is closed, damper **14** is open*, the valves **22** and **23** are open and the valve **24** is closed. With this arrangement steam or hot water can pass to the coils **12** and the blower motor **2** would be controlled by the room thermostat (not shown) so that when heat is desired in the rooms to be heated, the room thermostat would cause the motor **2** to operate the blower **1** and deliver air through the duct **25**, through the filters **19**, through the coil **12** and into the rooms through the ducts **20**. Said air would be circulated by being drawn from the rooms by the ducts **5**.

Scott, col. 2:11–25 (emphasis added), Figure; *see also* Appeal Br. 8–10, 12–13; Reply Br. 3–5, 9, 11–12.

According to Scott, during the cooling phase, damper 14 is closed and shutters 18 are open to draw air from outside the house. In contrast, during the heating phase, shutters 18 are closed and damper 14 is open to allow delivery of air through duct 25. As such, air drawn from outside the house through shutters 18 *does not mix* with air flowing through duct 25 (i.e., air leaving tank (cooling tower) 6 via duct 25 *does not mix* with outside air). *See* Final Act. 4; *see also* Ans. 29–30.

In the Answer, the Examiner states "Scott teaches an alternative method, using a cooling tower to provide cooling for an inside space." Ans. 29–30. We agree with Appellants that "[t]he Examiner has cited to no specific passage [in Scott] to support this assertion" and "[i]t is unclear what is meant by 'using a cooling tower to provide cooling for an inside space.'"

Reply Br. 5. Consequently, based on the foregoing reasons, the Examiner fails to establish by a preponderance of the evidence that the combined teachings of Kreft and Scott disclose the cooling system of claim 1.

Independent claim 13, which is directed to a method of operating a cooling system, includes language to a cooling tower for cooling warm water from an air conditioning module. *See* Appeal Br. Claims App., iii. The Examiner relies on Scott for the same unsupported findings discussed above. *See* Final Act. 8–10. Thus, the Examiner's findings are deficient for claim 13 as well.

Accordingly, we do not sustain the Examiner's rejection of claims 1, 3, 4, 10–14, 16, and 21–23 as unpatentable over Kreft and Scott.

Obviousness over Kreft, Scott, and any of Matsui, Curtis, Ito, or Wruck Claims 2, 5–9, 15, 17–19, 24, and 25

Claims 2, 5–9, 15, and 17–19 depend either directly or indirectly from claims 1 and 13. *See* Appeal Br. Claims App., i–iv. Independent claim 24, which is directed to a non-transitory machine-readable storage medium, includes language to a cooling module that cools warm liquid from an air conditioning module. *See* Appeal Br. Claims App., v. Claim 25 depends from claim 24. *Id.* The Examiner relies on Scott for the same unsupported findings discussed above for all the claims. *See* Final Act. 13–26. The Examiner does not rely on Matsui, Curtis, Ito, or Wruck to remedy the deficiencies of Scott. Accordingly, for reasons similar to those discussed above for claims 1 and 13, we likewise do not sustain the Examiner's obviousness rejections of claims 2, 5–9, 15, 17–19, 24, and 25.

DECISION

We REVERSE the Examiner's decision to reject claims 1–19 and 21–25 under 35 U.S.C. § 103(a).

REVERSED